**Homework 30.5 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

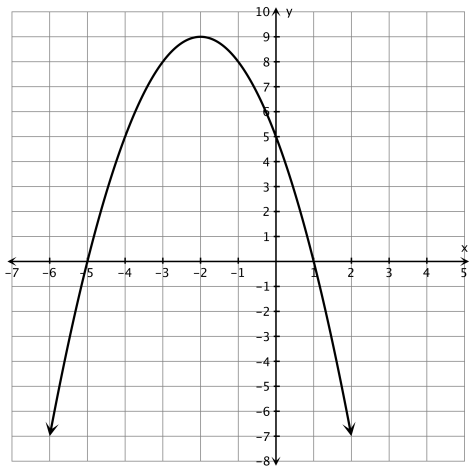
**Show all your work! Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_**

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| --- | --- | --- |
| 1) Write the quadratic equation given the solutions:  x =-3 and x = 2 | 2) Find the roots of the following binomial: | 3) Which of the following is a factor of   1. (x + 2) 2. (x + 6) 3. (x - 2) 4. (x + 1) |
| 4) Write the quadratic equation given the solutions:  x =4 and x = - 2   1. {-2} 2. {1} 3. {1, 2} 4. {–1, -2} 5. No solution | 5) Which of the following equations shows a correct use of the quadratic formula to solve ? (First list values of a, b, and c)  a**.**  b.  c.  d.  e. | 6) An object is launched at 64 feet per second (ft/s) from a platform 80 feet high. After how many seconds after launch will the object hit the ground?  *Identify the correct quadratic equation and solution.*   1. s(t) = –16s2  + 64s – 80; 5 seconds 2. s(t) = –16s2  + 64s + 80; 5 seconds 3. s(t) = –16s2  + 64s + 64; 4.82 seconds 4. s(t) = –16s2  + 80s + 64; 5.70 seconds 5. None of the above |
| 7) What are the solutions of | 8) Solve the equation: ? | 9) Use the quadratic formula to find the roots of the function |

10) Find the zeroes of the following polynomial:

11) An athlete who is 6.5 feet tall throws a shot put with an initial vertical velocity of 20 feet per second. The height of the shot put can be modeled by the function h(t) = -16t2 + 20t + 6.5.How long will it take for the shot put to hit the ground?

12) The graph  is shown below. What are the solutions to this equation based on the graph?



x=\_\_\_\_\_\_\_

x=\_\_\_\_\_\_\_

13) A penny is thrown from the top of the Eiffel tower. Write an equation to represent the projectile motion of the penny based on the sketch below.

**Starting Height 415 feet**

**Horizontal velocity = 4.2 ft/s**







**h(t) = -16t2 + \_\_\_\_ t + ­­­­\_\_\_\_\_\_**

**How long will it be before the penny hits the ground?**

